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EXAMINER	
CHEN, QING	

ART UNIT	PAPER NUMBER
2191	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,625	ALCORN ET AL.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-8,10-12,14-16 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-8,10-12,14-16 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the amendment filed on August 8, 2007.

2. **Claims 1-4, 6-8, 10-12, 14-16, and 18-20** are pending.

3. **Claims 1-4, 6-8, 11, 12, and 14-16** have been amended.

4. **Claims 5, 9, 13, and 17** have been cancelled.

5. The objection to drawings is withdrawn in view of Applicant's amendments to the drawings.

6. The objection to the specification is withdrawn in view of Applicant's amendments to the specification.

7. The 35 U.S.C. § 101 rejections of Claims 6-8 and 10 are withdrawn in view of Applicant's arguments. The 35 U.S.C. § 101 rejections of Claims 11, 12, 14, and 15 are withdrawn in view of Applicant's amendments to the claims. The 35 U.S.C. § 101 rejections of Claims 9 and 13 are withdrawn in view of Applicant's cancellation of the claims.

Response to Amendment

Specification

8. The disclosure is objected to because of the following informalities:

- Reference number 140 should be changed to -- 154 -- on page 9, line 30.

Appropriate correction is required.

Claim Objections

9. **Claim 3** is objected to because of the following informalities:

- **Claim 3** contains a typographical error: Claim 3 should presumably depend on Claim 1, not Claim 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1, 2, 4, 6, 7, 10, 11, 14-16, 18, and 19** are rejected under 35 U.S.C. 102(e) as being anticipated by **Hamilton (US 6,889,227)**.

As per **Claim 1**, Hamilton discloses:

- receiving a specification of a method in a container-managed persistence bean and a procedure in a backend data store *(see Column 4: 6-10, "The application server receives the database protocol commands or queries from the client computer system and a database bridge converts the database protocol commands to general computer programming language commands of applications running on the application server." and 33-46, "... when the client computer system attempts to access a database field, the request from the client is executed*

against the created map to determine the corresponding EJB command (e.g. method) for accessing the database field.");

- generating code in a helper class associated with the container-managed persistence bean *(see Column 6: 14-25, "The database bridge 120 may be defined as a "bridge" class to implement its database protocol command conversion functions.")*;

- determining a connector based on a connection factory type *(see Column 6: 1-9, "This Visual Basic application may use Microsoft database access technology ADO (ActiveX Data Objects) API 106, which is in turn built upon the Microsoft OLE-DB interface 108.")*;

- accessing the procedure via a backend-specific protocol and the connector, wherein the code in the helper class performs the accessing *(see Column 4: 51-56, "The client computer systems 14 communicate in a database access protocol, such as SQL, to the application server 18 ..."; Column 6: 1-9, "OLE-DB is a Microsoft COM API for database access. The Microsoft OLE-DB interface uses database drivers to talk to target databases." and 14-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20.")*;

- receiving a specification of input and output records for the procedure *(see Column 6: 36-42, "... the properties and methods of the EJB objects that are used to access the database are determined to create the database bridge 120.")*; and

- mapping the input and output records between the method in the container-managed persistence bean and the procedure, wherein a state of the container-managed persistence bean persists beyond a lifetime of an application that uses the container-managed persistence bean *(see Column 6: 2-25, "After the SQL protocol commands are mapped to EJB objects 130, the*

objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20." and 32-34, "The EJB objects 130 have methods and properties defined for accessing the appropriate tables and fields of the database." and 43-51, "The object evaluator 160 is executed to identify "getXXX" and "setXXX" methods in the target EJB and then these methods are mapped as properties in the database bridge 120 to correspond to the database field that the method operates on.").

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Hamilton further discloses:

- wherein the backend data store comprises a relational database *(see Column 6: 27-31, "The data of an SQL database is relational.").*

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Hamilton further discloses:

- calling an evaluator class and passing results of the procedure, wherein the evaluator class evaluates the results *(see Column 8: 10-15, "... the object evaluator 160 exposes methods of EJBs and, in this case, the object evaluator 160 is executed with respect to the single access EJB to expose the separate database access methods of the single access EJB object. The exposed methods are used to produce or update the database bridge map 128.").*

As per **Claim 6**, Hamilton discloses:

- means for receiving a specification of a method in a container-managed persistence bean and a procedure in a backend data store, wherein a state of the container-managed persistence bean persists beyond a lifetime of an application that uses the container-managed

persistence bean *(see Column 4: 6-10, "The application server receives the database protocol commands or queries from the client computer system and a database bridge converts the database protocol commands to general computer programming language commands of applications running on the application server." and 33-46, "... when the client computer system attempts to access a database field, the request from the client is executed against the created map to determine the corresponding EJB command (e.g. method) for accessing the database field.")*;

- means for generating code in a helper class associated with the container-managed persistence bean *(see Column 6: 14-25, "The database bridge 120 may be defined as a "bridge" class to implement its database protocol command conversion functions.")*;

- means for determining a connector based on a connection factory type *(see Column 6: 1-9, "This Visual Basic application may use Microsoft database access technology ADO (ActiveX Data Objects) API 106, which is in turn built upon the Microsoft OLE-DB interface 108.")*;

- means for accessing the procedure via a backend-specific protocol and the connector, wherein the code in the helper class performs the means for accessing *(see Column 4: 51-56, "The client computer systems 14 communicate in a database access protocol, such as SQL, to the application server 18 ..."; Column 6: 1-9, "OLE-DB is a Microsoft COM API for database access. The Microsoft OLE-DB interface uses database drivers to talk to target databases." and 14-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20.")*;

- means for receiving a specification of input and output records for the procedure *(see Column 6: 36-42, "... the properties and methods of the EJB objects that are used to access the database are determined to create the database bridge 120.")*; and

- means for mapping the input and output records between the method in the container-managed persistence bean and the procedure *(see Column 6: 2-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20." and 32-34, "The EJB objects 130 have methods and properties defined for accessing the appropriate tables and fields of the database." and 43-51, "The object evaluator 160 is executed to identify "getXXX" and "setXXX" methods in the target EJB and then these methods are mapped as properties in the database bridge 120 to correspond to the database field that the method operates on.")*.

As per **Claim 7**, the rejection of **Claim 6** is incorporated; and Hamilton further discloses:

- wherein the backend data store comprises a relational database *(see Column 6: 27-31, "The data of an SQL database is relational.")*.

As per **Claim 10**, the rejection of **Claim 6** is incorporated; and Hamilton further discloses:

- means for calling an evaluator class and passing results of the procedure, wherein the evaluator class evaluates the results *(see Column 8: 10-15, "... the object evaluator 160 exposes methods of EJBs and, in this case, the object evaluator 160 is executed with respect to the single*

access EJB to expose the separate database access methods of the single access EJB object. The exposed methods are used to produce or update the database bridge map 128.").

Claims 11, 14, and 15 are storage medium claims corresponding to the apparatus claims above (Claims 6, 7, and 10) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 6, 7, and 10.

As per **Claim 16**, Hamilton discloses:

- a processor *(see Column 5: 35-40, "... the present invention are carried out through the use of a central processing unit (CPU) in conjunction with application programs or modules.")*; and

- a storage device encoded with instructions, wherein the instructions when executed on the processor *(see Column 5: 35-40, "Computer programs and modules used to implement the various steps of the present invention are generally located in a memory unit ...")* comprise:

- receiving a specification of a method in a container-managed persistence bean and a procedure in a backend data store, wherein a state of the container-managed persistence bean persists beyond a lifetime of an application that uses the container-managed persistence bean *(see Column 4: 6-10, "The application server receives the database protocol commands or queries from the client computer system and a database bridge converts the database protocol commands to general computer programming language commands of applications running on the application server." and 33-46, "... when the client computer system attempts to access a*

database field, the request from the client is executed against the created map to determine the corresponding EJB command (e.g. method) for accessing the database field."),

- generating code in a helper class associated with the container-managed persistence bean *(see Column 6: 14-25, "The database bridge 120 may be defined as a "bridge" class to implement its database protocol command conversion functions.")*,

- determining a connector based on a connection factory type *(see Column 6: 1-9, "This Visual Basic application may use Microsoft database access technology ADO (ActiveX Data Objects) API 106, which is in turn built upon the Microsoft OLE-DB interface 108.")*,

- accessing the procedure via a backend-specific protocol and the connector, wherein the code in the helper class performs the accessing *(see Column 4: 51-56, "The client computer systems 14 communicate in a database access protocol, such as SQL, to the application server 18 ..."; Column 6: 1-9, "OLE-DB is a Microsoft COM API for database access. The Microsoft OLE-DB interface uses database drivers to talk to target databases." and 14-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20.")*,

- receiving a specification of input and output records for the procedure *(see Column 6: 36-42, "... the properties and methods of the EJB objects that are used to access the database are determined to create the database bridge 120.")*, and

- mapping the input and output records between the method in the contain-managed persistence bean and the procedure *(see Column 6: 2-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20." and 32-34, "The EJB objects 130 have methods and*

properties defined for accessing the appropriate tables and fields of the database." and 43-51, "The object evaluator 160 is executed to identify "getXXX" and "setXXX" methods in the target EJB and then these methods are mapped as properties in the database bridge 120 to correspond to the database field that the method operates on.").

As per **Claim 18**, the rejection of **Claim 16** is incorporated; and Hamilton further discloses:

- calling an evaluator class and passing results of the procedure, wherein the evaluator class evaluates the results *(see Column 8: 10-15, "... the object evaluator 160 exposes methods of EJBs and, in this case, the object evaluator 160 is executed with respect to the single access EJB to expose the separate database access methods of the single access EJB object. The exposed methods are used to produce or update the database bridge map 128.").*

As per **Claim 19**, the rejection of **Claim 16** is incorporated; and Hamilton further discloses:

- wherein the backend data store comprises a relational database *(see Column 6: 27-31, "The data of an SQL database is relational.").*

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 3, 8, 12, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hamilton (US 6,889,227)** in view of **Apte et al. (US 6,269,373)**.

As per **Claim 3**, the rejection of **Claim 1** is incorporated; however, Hamilton does not disclose:

- wherein the backend data store comprises a non-relational database.

Apte et al. disclose:

- wherein the backend data store comprises a non-relational database *(see Column 6: 54-57, "The above mentioned methods could be written to access other backend systems (i.e. CICS, IMS, MQ, SAP, etc.) and should not be restricted to just JDBC or database access.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Apte et al. into the teaching of Hamilton to include wherein the backend data store comprises a non-relational database. The modification would be obvious because one of ordinary skill in the art would be motivated to utilize and access non-relational databases *(see Apte et al. – Column 6: 54-57)*.

As per **Claim 8**, the rejection of **Claim 6** is incorporated; however, Hamilton does not disclose:

- wherein the backend data store comprises a non-relational database.

Apte et al. disclose:

- wherein the backend data store comprises a non-relational database *(see Column 6: 54-57, "The above mentioned methods could be written to access other backend systems (i.e. CICS, IMS, MQ, SAP, etc.) and should not be restricted to just JDBC or database access.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Apte et al. into the teaching of Hamilton to include wherein the backend data store comprises a non-relational database. The modification would be obvious because one of ordinary skill in the art would be motivated to utilize and access non-relational databases *(see Apte et al. – Column 6: 54-57).*

Claim 12 is rejected for the same reason set forth in the rejection of Claim 8.

As per **Claim 20**, the rejection of **Claim 16** is incorporated; however, Hamilton does not disclose:

- wherein the backend data store comprises a non-relational database.

Apte et al. disclose:

- wherein the backend data store comprises a non-relational database *(see Column 6: 54-57, "The above mentioned methods could be written to access other backend systems (i.e. CICS, IMS, MQ, SAP, etc.) and should not be restricted to just JDBC or database access.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Apte et al. into the teaching of Hamilton to include wherein the backend data store comprises a non-relational database. The modification would be obvious because one of ordinary skill in the art would be motivated to utilize and access non-relational databases *(see Apte et al. – Column 6: 54-57).*

Response to Arguments

14. Applicant's arguments filed on August 8, 2007 have been fully considered, but they are not persuasive.

In the remarks, Applicant argues that:

a) In contrast, Hamilton at column 6, lines 36-38 describes that "a map is created to correlate queries or commands from the client application to EJB objects." Thus, the Hamilton commands or queries that are correlated are transitory and do not persist beyond the lifetime of the client computer system and are not a method in a container- managed persistence bean, so Hamilton does not teach or suggest "mapping the input and output records between the method in the container-managed persistence bean and the procedure, wherein a state of the container-managed persistence bean persists beyond a lifetime of an application that uses the container-managed persistence bean," as recited in claim 1.

Examiner's response:

a) Examiner disagrees. Hamilton clearly discloses mapping the input and output records between the method in the container-managed persistence bean and the procedure, wherein a state of the container-managed persistence bean persists beyond a lifetime of an application that uses the container-managed persistence bean *(see Column 6: 2-25, "After the SQL protocol commands are mapped to EJB objects 130, the objects are executed and the EJB objects 130 develop and send queries to the database 110 server 20." and 32-34, "The EJB objects 130 have methods and properties defined for accessing the appropriate tables and fields of the database." and 43-51, "The object evaluator 160 is executed to identify "getXXX" and "setXXX" methods in the target EJB and then these methods are mapped as properties in the database bridge 120 to correspond to the database field that the method operates on.").*

Note that Applicant has submitted in the "Background" section of the originally-filed specification that entity beans are persistent because the state of an entity bean is saved in a storage mechanism. Persistent means that the entity bean's state exists beyond the lifetime of the application or the J2EE server process *(see Page 3: 5-11)*. Thus, persistence is an inherent feature of entity beans and, therefore, one of ordinary skill in the art would recognize that the Enterprise Java Bean (EJB) objects as disclosed in Hamilton are persistent as well.

In the remarks, Applicant argues that:

b) Apte at column 17, lines 17-20 describes a "Tie" object that maps server application state to corresponding back-end data." But, Apte does not teach or suggest "mapping the input and output records between the method in the container-managed persistence bean and the procedure," as recited in claim 1 because Apte maps a server application state to back end data

and not records between a method in a container-managed persistence bean and a procedure. Thus, Apte teaches away from claim 1. Hence, the references, alone or in combination, do not teach or suggest all the elements of claim 1.

Examiner's response:

b) Applicant's arguments are moot in view of Examiner's further clarification of Hamilton in the Examiner's response (a) above.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The

Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI ZHEN
SUPERVISORY PATENT EXAMINER

QC / ac
October 4, 2007